DOCUMENT RESUME

ED 036 763 AC 006 569

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TITLE Evaluation Inference Applied to Programming on an Educational Telephone Network - A Beginning.
PUB DATE Feb 70
NOTE 11p.; Paper presented at the Adult Education Research Conference, Minneapolis, Minnesota, February 27-28, 1970

EDRS PRICE EDRS Price MF-$0.25 HC-$0.65
DESCRIPTORS Analysis of Variance, Factor Analysis, Home Economics Education, Participant Characteristics, *Participant Satisfaction, *Program Evaluation, *Research Design, *Telephone Instruction, *University Extension
IDENTIFIERS *University of Wisconsin

ABSTRACT

A study was made of a noncredit home economics program presented by the University of Wisconsin Extension over the statewide Educational Telephone Network (ETN). The study was limited to the total population involved in one program (54) and their immediate reaction to that program. Methodology used was a combination of action research and field research. The instrument was developed around six factors: environment, content, program process, lecturer, moderator, and technical qualities of the ETN. Variables concerned with the various factors were interspersed and resulted in 48 items plus a 9-point scale for an overall assessment of the program. A four-point interval scale was used with each of the 48 variables. The instrument was open-ended, with provision for suggestions for improvement. Subjective evaluative inference based on means and standard deviations indicated the overall program was somewhat better than a possible average but with room for improvement. A better approach to organization and a more careful analysis of the level of content could lead to increased effectiveness. The moderator should assume the role of group leader in an attempt to bring about more group interaction. (author/eb)

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EVALUATION INFERENCE APPLIED TO PROGRAMMING ON AN EDUCATIONAL TELEPHONE NETWORK - A BEGINNING

Harry P. Zimmerman

Evaluative research reported here represents one facet of a research responsibility designed as an integral part of a systems approach to utilization of instructional media resources in University Extension, The University of Wisconsin. Such a responsibility implied a broad curriculum development orientation and philosophy which considered evaluation more as a beginning and not an end to instructional planning.

This research was conducted to discover unusual strengths and weaknesses in the selected areas of environment, content, program process, lecturer, moderator and technical qualities of the Educational Telephone Network as they related to a teaching-learning situation involving an adult education class * conducted via the Wisconsin Statewide Educational Telephone Network.

Specific questions to be answered were:

1. What was the populations' reaction to the total program?
2. What was the populations' reaction to the various factors?
3. What variables within these factors represented unusual strengths and weaknesses?

It was assumed that professional intuitive skill could be capitalized upon in evaluation for program improvement. It was also assumed that an analog could be developed which would describe ideal conditions in a learning situation and if that analog could be copied in each ETN terminal location, better ETN programming would occur. In

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* conomics Role in Meeting the Challenges of Societal ." Center for Women's and Family Living Education, Ext., The University of Wisconsin, Nov. 10 & 12, 1969.

addition, it was assumed that such an analog would provide a standard for relating pragmatic data which would give direction to program analysis. Evaluation was defined as a subjective use of pragmatic data to make evaluative inference for the purpose of developing a new program theory. The study was limited to total population involved in the one program and immediate reaction to that program was solicited. The idea of applying knowledge to new theories of programming was the real significance of the study.

Content for the instrument was derived from literature and through counsel with authorities. Variables of each factor were interspersed resulting in 48 items, plus a nine point scale for an overall assessment of the program. The instrument also had a page of instructions, the rating criteria, and a page for gathering general information such as age, educational background, years of professional experience, and reasons for participating. Program information, such as date of program, name of city in which program was held, and interest in additional programs was also given. The instrument was open-ended in that it provided a place for participants to respond to the statement, "Suggestions for Improving this Program." A four point interval scale was used, thus a participant was asked to check whether an item was:

(A) Not descriptive of the program they had just finished.

(B) Minimal descriptive of the program just finished.

(C) Somewhat descriptive of the program just finished.

(d) Most descriptive of the program just finished.

The general information and program information treatment showed a frequency and percentage count of responses. Population means were used as a basis for interpreting variable responses.

Responses to four questions which dealt with participant characteristics were tabulated along with one question which dealt with the location and one question which inquired about interest for future programs. In terms of age, 40 of the 54 participants were in the 26 to 45 age bracket. Their educational background showed that 49 had Bachelors degrees, four had Masters degrees, and one had a Ph.D.. In terms of years of experience, the majority of the participants had relatively few years of experience. (Fig. I) The reason for participating in this non credit program as indicated by the participants' responses was, first, for personal interest, second, for professional advancement.

Participants were asked to respond to the question, "Would you be interested in participating in a similar program next semester?" The response to that question indicated 78% were interested. (Fig. II)

Obviously this kind of information gives some insight into characteristics of participants in such a program. However, it is also quite obvious that there is need for much more precise identification of participant characteristics and interests.

The total program and evaluation data (Fig. III) were treated by turning the 9 point scale from the vertical position, as it appeared on the instrument, to a horizontal position. A bar graph shows total possible response that could be made by the group, the actual response made by the group, and the average of the total possible responses. In this case the highest possible rating would have been 9, but the actual mean score was 5.74, thus the programmer could very quickly get feed back on the total project by relating the parti-

		Number	Percentage
AGE	20-25	2	3.70
	26-35	20	37.04
	36-45	20	37.04
	46-over	12	22.22
EDUCATIONAL BACKGROUND	Bachelors	49	90.74
	Masters	4	7.41
	Ph. D.	1	1.85
YEARS OF EXPERIENCE	1-5	27	50.00
	6-10	16	29.63
	11-15	4	7.41
	16-over	6	11.11

Fig. 1

		Number	Percentage
REASON	**Adv. Professional**	13	24.07
	Personal Interest	30	55.56
	Both	1	1.85
	Other	10	18.52
LOCATION	**Courthouse**	26	48.15
	U.W. Center	21	38.89
	Hospital	0	00.00
	Other	7	12.96
INT.	**Yes**	42	77.79
	No	9	16.67

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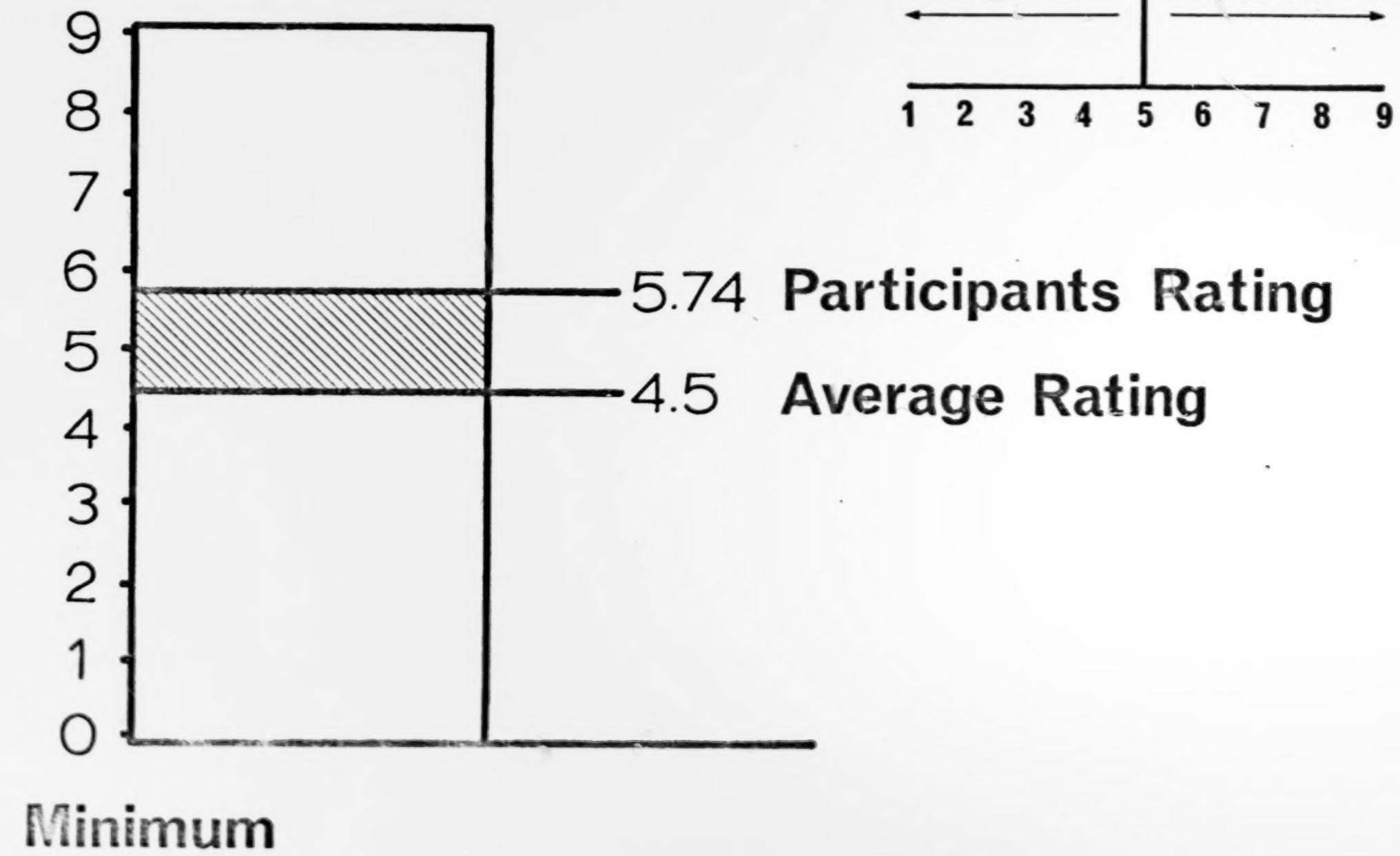


Fig. III

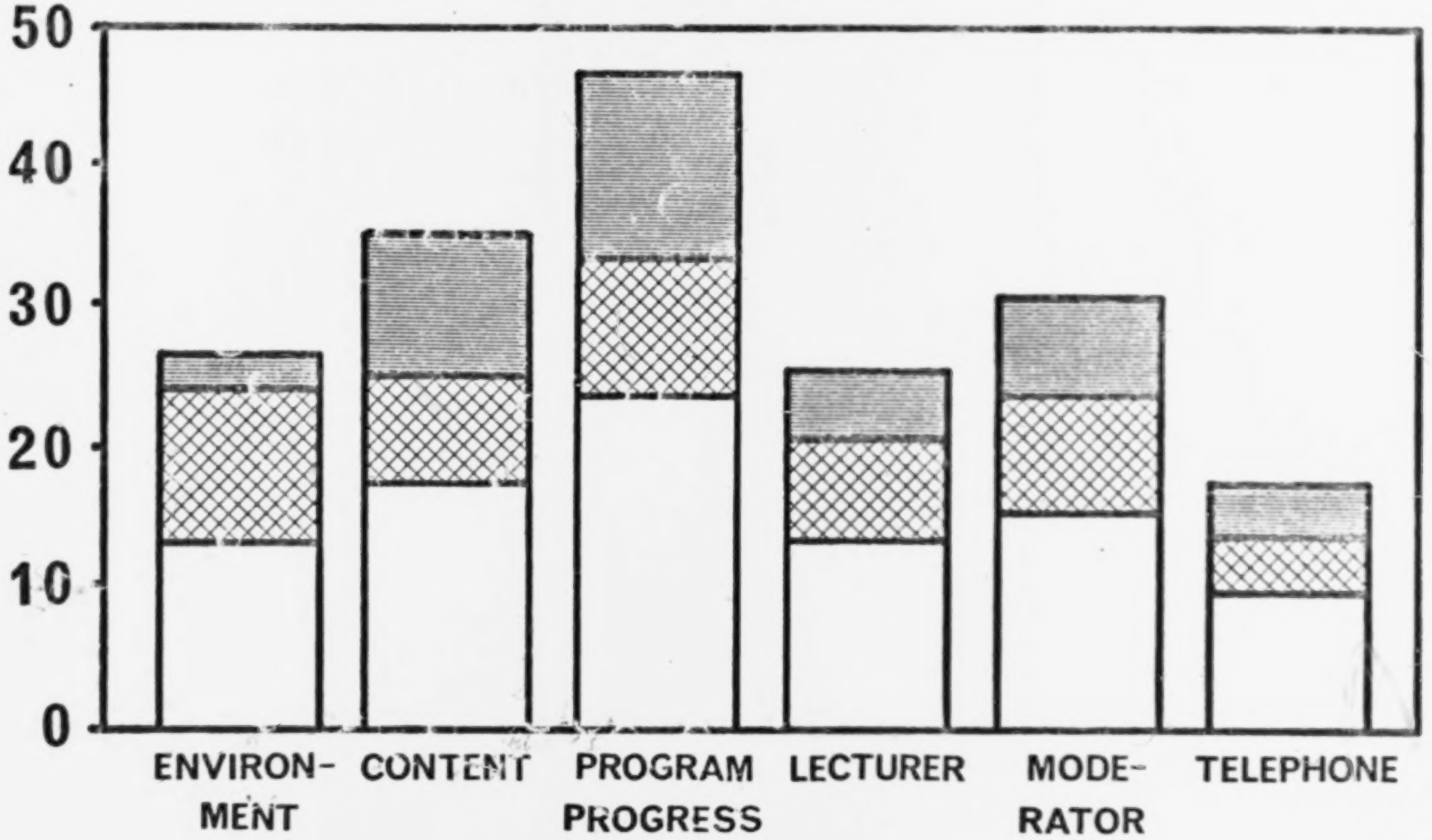
cipants' actual mean score with the maximum possible, scale average and minimum possible.

Still in terms of stated significance of the study this did not give much insight into program structure. Thus each factor was treated the same way. (Fig. IV) The factor concerned with environment may be read as follows: the participants' accumulated mean score was 24.7, the highest possible score was 28, the average of the possible scores was 14. Thus, one would conclude that on this program the environment was a strong part of the program structure; persons responsible for the program would want to analyze the components of the environment. The knowledge gained through such an analysis would be used when the program was again presented.

A survey of the factor evaluation chart shows similar strength in the moderator factor. (Fig. IV) The content factor, lecturer factor, and telephone network factor show an average relationship between the average and possible scores; while the greatest change for program improvement appears to lie in the program process. This confirmed a belief that format was a critical factor in Instructional Telephone Network programming and that there were probably unique characteristics that need to be identified.

In order to meet the stated significance of the study it was necessary to look inside the factors in an attempt to find out more precisely what variables had the greatest bearing on factor means. Thus, data for each factor was treated the same way. Analysis of the group mean for each variable was made by relating it to an arbitrary scale showing mean score categories of 2.7 or below, 3.7 or above and 2.7 to 3.7. (Fig. V)

CLUSTER EVALUATION



Possible Total Rating

Participants Rating

Average Rating

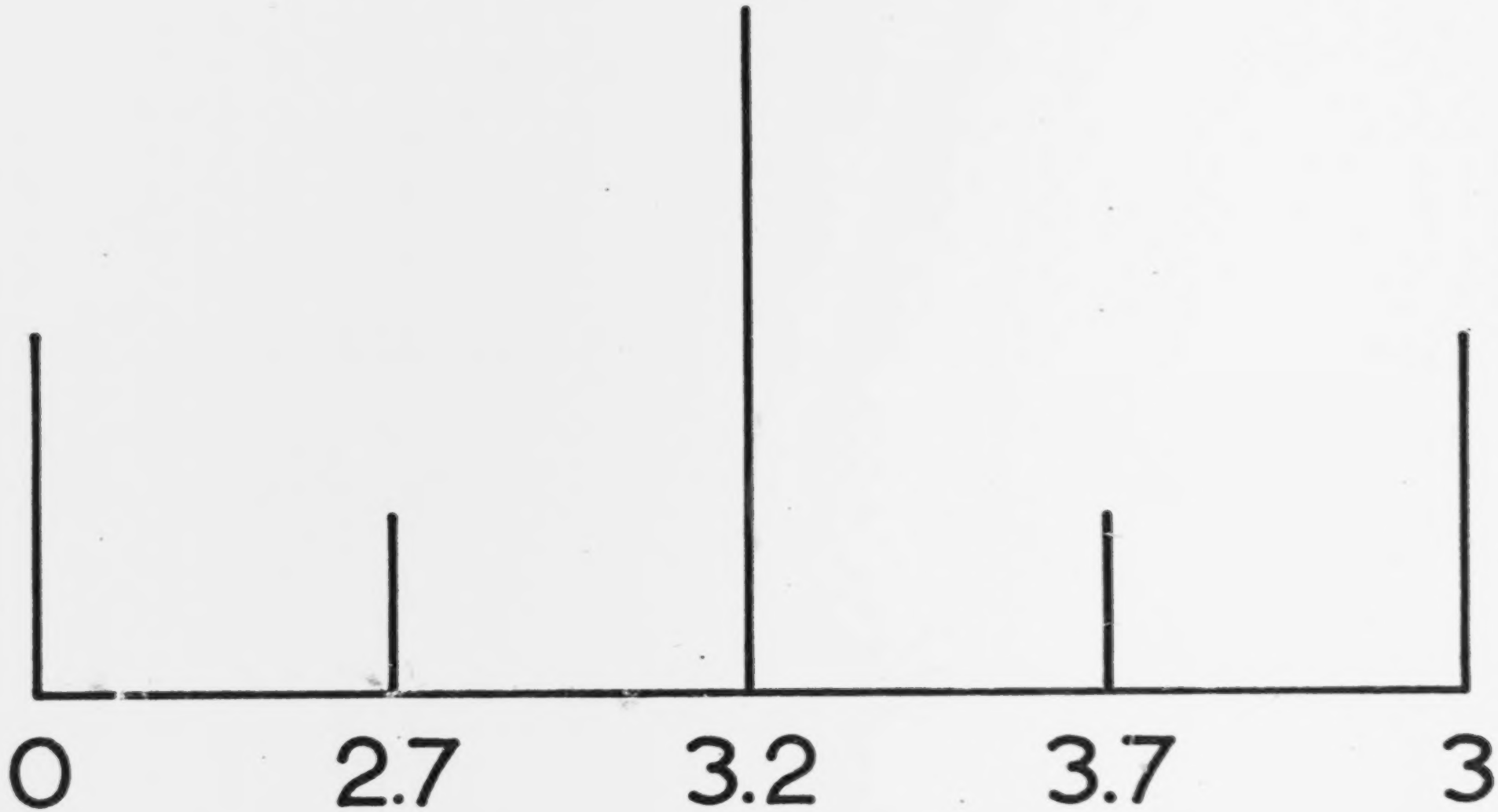


Fig 5

The environment factor score was influenced by two variables falling in the 3.7 or above category and none in the 2.7 category. These variables indicated that the room noise was low during the lecture and that the room was convenient and easy to find. Mean scores of the content factor were influenced by two variables falling in the 2.7 or below category and none in the 3.7 or above range. These variables indicated the content presented was not discussed at the appropriate level and that it did not provide enough detail. The program format factor score was influenced by five variables that fell into the 2.7 or below category. These variables indicated the question and answer period was long enough but not as beneficial as it should be. Reason for this was that organization did not give all participants time to ask their questions. Also, major points discussed were not too well outlined verbally by the lecturer before the main body of content. Again, there was enough time for content material but too little of the right kind of content presented. Variable scores in the remaining three factors: lecturer, moderator, and the telephone network, fell for the most part in the 2.7 to 3.7 category. The lecturer did seem to have good rapport with the participants. There seemed to be a need for the moderator to act more as a group leader. The ETN equipment seemed easy to operate.

One would conclude that the overall program was somewhat better than a possible average but with room for improvement. The format of the program should be carefully evaluated based on the five items falling in the 2.7 or less category. And that such an analyses should result in a different format theory for the next program. The contents

should be analyzed especially in the areas of content level. One would conclude that more effort should be made to have the moderator act as a group leader instead of just a moderator. And that the characteristics of the environment should be carried over to the next program as should the qualities of the lecturer and the techniques used with ETN.

However, it was strongly suggested that the real conclusions of this study were derived, not so much by the researcher, but by the curriculum committee as they analyzed the program based on data provided in preparation for the next program.

There will be continual effort to refine the instrument both in terms of appropriate variables and its validity and reliability. There will be future research dealing with the isolation of more specific factors. There is need for research which will be designed around a hypothesis of relationship between factors and between variables. It is also recognized that a need for truly behavioral change research, as an extension of this research approach, is desirable. Also, a more precise means of developing program theory involving carefully derived experimental data will need to be secured. There is indeed a lot to be done!

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